Comparison between Self-awareness of Academic Procrastination and Actual Learning Activity

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Abstract: This paper focused on academic procrastination by comparing students' self-awareness of academic procrastination with their actual learning activity. We used questionnaires to measure students' self-awareness of academic procrastination and LMS (Learning Management System) learning histories to measure their actual learning activities. The results from these comparisons indicate that the participants who do not recognize their procrastination habits tend to actually postpone beginning assigned tasks.

Keywords: Procrastination, self-awareness, actual learning activity, LMS

1. Introduction

Previous research has reported that university students often engage in academic procrastination (Ellis & Knaus, 1977), which means that "learners don't begin the task immediately and don't submit the task by the deadline" (Lay, 1986). There is a substantial amount of existing research on this topic, and such studies use questionnaires or learning histories to measure academic procrastination. In the former, academic procrastination is measured based on students' answers to questions about beginning and submitting tasks. In the latter, LMS (Learning Management System) etc. are used to collect students' learning histories to measure academic procrastination. Previous studies have used either questionnaires (e.g., Fujita, 2005; Klassen et al., 2008) or LMS learning histories (e.g., Cerezo et al., 2017) to measure procrastination, but not both.

However, using only either questionnaires or learning histories does not allow researchers to identify the difference between students' self-awareness of academic procrastination and their actual learning activities. This is because questionnaires are subjective while learning histories are objective measurements.

We therefore hypothesized that there is a difference between students' self-awareness of academic procrastination and their actual learning activities. To test this hypothesis, we propose using both measurements and comparing the results (Figure 1).

If there is a difference between the two measurement results, we will discover the specific tendencies via further analyses. For example—

- The learning tendencies of the students who recognize their academic procrastination.
- The learning tendencies of the students who do not recognize their academic procrastination.

If we do find that specific tendencies exist, teachers will be able to predict their students' behavior by understanding their self-awareness of academic procrastination. Teachers will subsequently be able to set tasks and manage students based on their predictions. Our hope is that lesson designs will be improved.
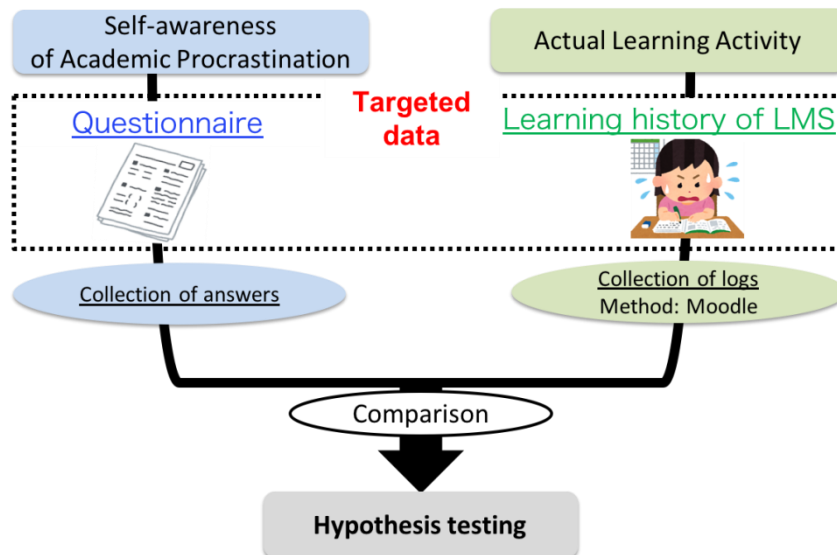
Figure 1. Proposal of this research

2. Method

2.1 Targeted Data

- *Self-awareness of Academic Procrastination*

We created a nine-item questionnaire based on Fujita (2005) and Aitken (1983), with responses measured on a five-point scale from "strongly agree" (1) to "strongly disagree" (5). We collected the respondents' questionnaire answers.

- *Actual Learning Activity*

We used "Moodle" to collect learning histories on the students' progress on a task. For example— log 1: browsing history of the task description pages; log 2: download history of the task; log 3: date the task was submitted.

2.2 Experiment

First, the participants answered the questionnaire items. Second, the participants worked on a task (creating presentation materials) and we collected learning histories on their progress. As noted in Section 2.1, the collected log items ranged from log1 to log3. The task was divided into four subtasks—

- Subtask 1: Decide on the presentation theme
- Subtask 2: Collect reference materials on the theme
- Subtask 3: Create a figure to be cited in the presentation
- Subtask 4: Create the presentation

These subtasks were set usage limits which the participants could not work on the next subtask until they finished the previous subtask. For that reason, the participants worked on these subtasks from Subtask 1 in order. Then, we compared these learning histories to the participants' questionnaire answers and measured whether there was a difference between their self-awareness of academic procrastination and actual learning activity.

We conducted an experiment to verify our hypothesis, using students in an Information Literacy course at Sophia University in 2018. The experimental period was from December 10 to December 17, 2018. 47 out of 82 students agreed to participate in this research.

3. Analysis

We analyzed the responses to the following questionnaire item—" Do you postpone working on things to the last minute?". This questionnaire item is related to the beginning the task. For that reason, we calculated the Subtask 1 submission rate. The analytical methods are displayed below.

- Analysis 1: We set the questionnaire responses as students' *degree of procrastination,* which captures the degree of procrastination that the participants recognize (self-awareness).
- Analysis 2: We grouped the participants by their *degree of procrastination* (self-awareness). Then, we calculated each group's Subtask 1 submission rate and used them to understand the participants' progress on the task. Figure 2 shows each group's Subtask 1 submission rate transition.
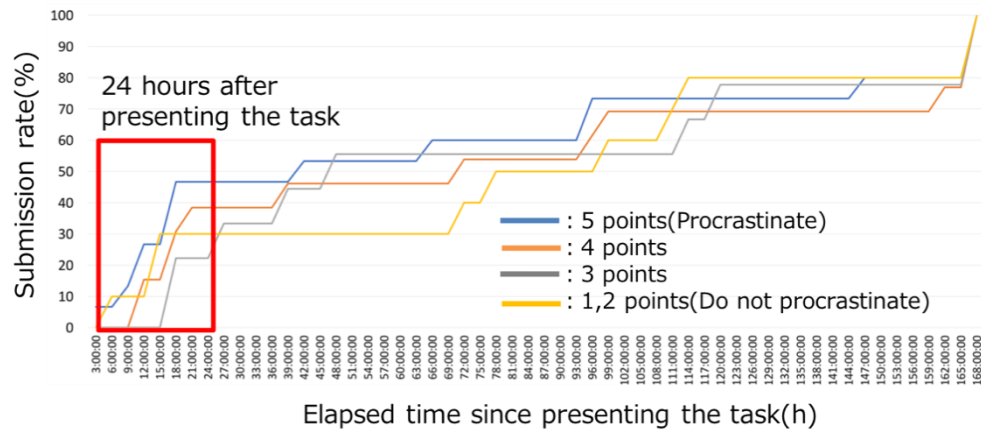

Figure 2. Transition of submission rates

- Analysis 3: We set *degree of procrastination* (actual learning activity) which demonstrates how much the participants had postponed the task actually. The setting methods are explained below. We focused on the submission rate 24 hours after presenting the task to students. Then, we ranked the groups in descending order based on their submission rates. We used this ranking to score their progress on the task (1st place [1 point] to 5th place [5 points]) and their *degree of procrastination* (actual learning activity).

- Analysis 4: We compared each group's *degree of procrastination* (self-awareness) and their *degree of procrastination* (actual learning activity) to verify the hypothesis.

4. Results

- **Questionnaire item "Do you postpone working on things to the last minute?"**

In Analysis 1 and Analysis 3, we set the two *degrees of procrastination.* Table 1 shows the results.

Table 1

Results of degree of procrastination self-awareness and actual learning activity

Degree of procrastination	Degree of procrastination (self-awareness)	Score(progress on the task) =Degree of procrastination (actual learning activity)
Procrastinate / Procrastinated	5 points (15people)	1 point
	4 points (13people)	2 points
	3 points (9people)	4 points
Do not procrastinate / Did not procrastinate	1,2 points (10people)	5 points

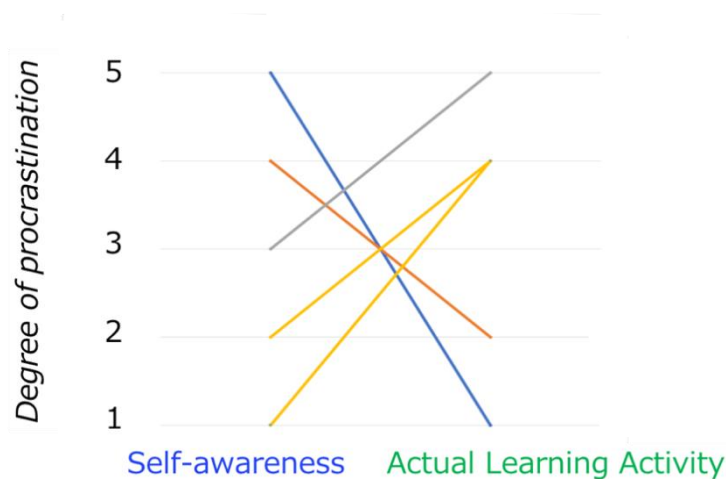The results of Table 1 are illustrated in Figure 3.

Figure 3. comparison of *degree of procrastination* between self-awareness and actual learning activity
(In Figure 3, the two *degrees of procrastination* are five-step evaluations
from "do not procrastinate" (1 point) to "procrastinate" (5 points).)

- Result A: The group with lower *degree of procrastination* (self-awareness) scores received higher *degree of procrastination* (actual learning activity) scores. We therefore found that these two procrastination measurement scores conflicted.

Receiving Result A, we made a correlation analysis of the *degree of procrastination* between self-awareness and actual learning activity. Figure 4 shows the result.
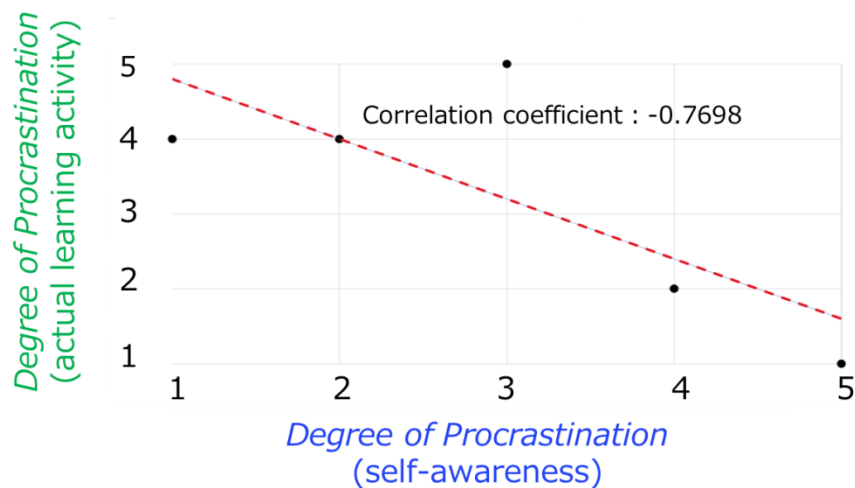

Figure 4. Correlation analysis of *degree of procrastination* between self-awareness and actual learning activity (In Figure 4, the two *degrees of procrastination* are five-step evaluations from "do not procrastinate" (1 point) to "procrastinate" (5 points).)

- Result B: The above results indicate that there is a negative correlation between degree of procrastination (self-awareness) and degree of procrastination (actual learning activity) (r =-.770, ns). In other words, the participants who did not recognize their procrastination habit tended to actually postpone their beginning of the task (hereinafter, referred to as "Procrastinator"). Thus, there was a clear difference between students' self-awareness of academic procrastination and their actual learning activities.

5. Discussion

Result B clearly indicates that there were procrastinators. We expect that the result might be affected by the student's self-strictness. For example, if the participants are easy on themselves (Figure 5), we expect that they gently evaluate themselves. Therefore, such participants might have evaluated themselves as procrastinators. While we expect that they would set easy learning goals for themselves. Therefore, such participants might not have immediately began the task. In other words, they procrastinated. Based on this discussion, we think that there were procrastinators.
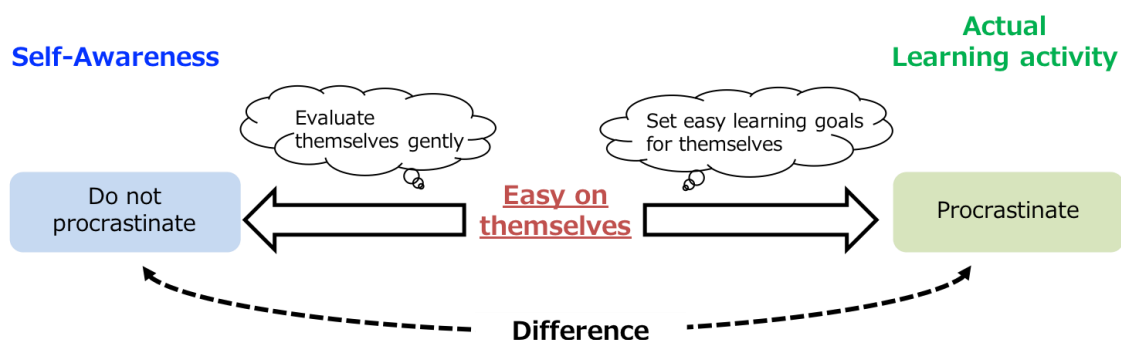
Figure 5. Conceptual Framework for Discussion

6. Conclusion and Future Work

In this study, we verified our hypothesis that there would be a difference between students' self-awareness of academic procrastination and their actual learning activities. Result B clearly indicated that there were procrastinators. The results also demonstrate that there was a clear difference between students' self-awareness of academic procrastination and their actual learning activities. In addition, we expect that the results might be affected students' self-strictness.

Also, we were unable to analyze all questionnaire items. It is important that we use our future work to analyze these items to better understand self-awareness of academic procrastination and actual learning activity.

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